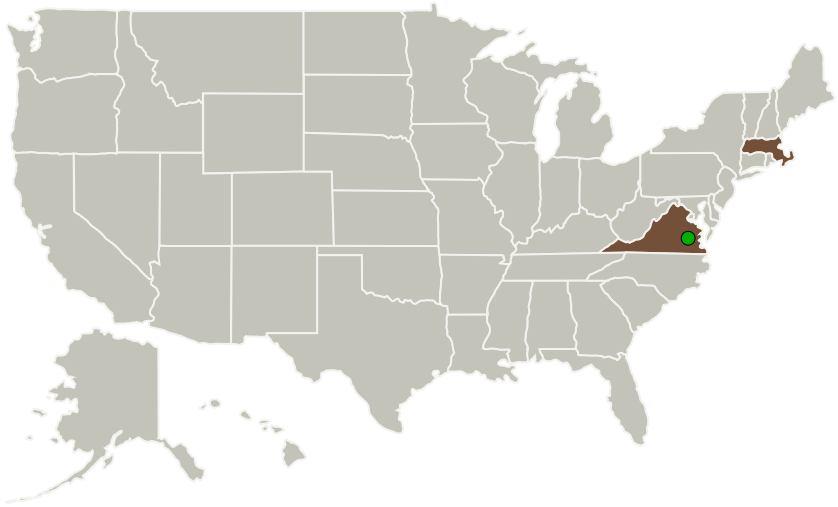
Integrated Variable Fidelity Conceptual Design, Phase I

Completed Technology Project (2011 - 2011)

Project Introduction

CADNexus proposes to develop an Integrated Variable Fidelity Conceptual Design tool. The application will enable design and analysis of unconventional and advanced concepts in the conceptual design phase. The application will be integrated not only in the conceptual design phase but throughout the entire design process from conceptual design, to preliminary design, to detailed design. The integration across design stages is accomplished by development of a component library that will store detailed aircraft shapes and components as well as rich metadata about the components, their attributes, and any other pertinent data. The library will enable designers to generate candidate design concepts given a set of mission requirements or other characteristics. In addition to performance analysis of a conceptual design the tool will also provide and evaluation of risk by projecting the probability that the design may not satisfy its mission requirements.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
CADNexus Inc.	Lead Organization	Industry	Burlington, Massachusetts
Langley Research Center(LaRC)	Supporting Organization	NASA Center	Hampton, Virginia

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Primary U.S. Work Locations	
Massachusetts	Virginia

Project Transitions

February 2011: Project Start

September 2011: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/138676)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

CADNexus Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

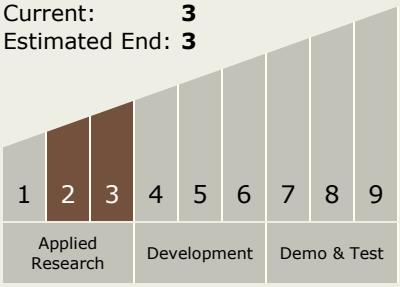
Carlos Torrez

Principal Investigator:

Christopher J Deschenes

Technology Maturity (TRL)

Start: **2**
Current: **3**
Estimated End: **3**



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Technology Areas

Primary:

- TX15 Flight Vehicle Systems
  - TX15.2 Flight Mechanics
    - TX15.2.4 Modeling and Simulation for Flight

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System